



# Online Experiments with jsPsych

## Introduction to jsPsych

18. Januar 2021



# jsPsych

- ▶ What is jsPsych?
  - ▶ JavaScript library for running experiments in the browser
- ▶ Useful links
  - ▶ [jsPsych Website](#)
  - ▶ [jsPsych Code](#)
  - ▶ [jsPsych Paper](#)
  - ▶ [YouTube Tutorial 1](#)
  - ▶ [YouTube Tutorial 2](#)
  - ▶ [YouTube Tutorial 3](#)



# jsPsych

- ▶ Running behavioural studies online: Is it valid?
- ▶ Useful references
  - ▶ Bridges, D., Pitiot, A., MacAskill, M. R., & Peirce, J. W. (2020). The timing mega-study: comparing a range of experiment generators, both lab-based and online. PeerJ, 8, e9414.
  - ▶ de Leeuw, Joshua R., and Benjamin A. Motz. "Psychophysics in a Web browser? Comparing response times collected with JavaScript and Psychophysics Toolbox in a visual search task." Behavior Research Methods 48.1 (2016): 1-12.
  - ▶ Hilbig, B. E. (2016). Reaction time effects in lab-versus Web-based research: Experimental evidence. Behavior Research Methods, 48(4), 1718-1724.



# jsPsych

## ► What do we need?

- Text Editor (Vim, Visual Studio Code, Sublime Text, R-Studio etc.)
  - Need to edit .js (95%), .html, and .cs files
  - Syntax highlighting!
- Web-Browser
  - Need to test on most commonly used browsers (e.g., Firefox, Chrome, and Safari)
- jsPsych library
- Web Server (e.g., Pavlovia)
  - Not required for local development/initial testing
- Git (required for interaction with Pavlovia + useful in general for code development)
  - Git link



# Git

## ► What is Git?

### ► Git is version control software

- We can use it to keep track of changes in our experiment code (complete history of changes)
- Avoid need for myexperiment180121.js, myexperiment190121\_test\_change.js, myexperiment190121\_other\_change.js, and so on
- Makes collaboration easier (share code, use code from others)

## ► What is GitHub/GitLab

### ► Two separate online hosts for Git projects

- GitHub
- GitLab



# Git Basics: Walkthrough I

- ▶ Create a new project (local computer)
  - ▶ README.md file
  - ▶ git init . directory
  - ▶ git add .
  - ▶ git status
  - ▶ git commit
- ▶ Create a repository on GitHub<sup>1</sup> or GitLab
  - ▶ Your account → Your repositories → New
  - ▶ Repository name → Create repository
  - ▶ ... or push an existing repository from the command line
- ▶ Upload our local repository to GitHub or GitLab
  - ▶ git remote add origin <https://github.com/igmmgi/XXX.git>
  - ▶ git branch -M main<sup>2</sup>
  - ▶ git push -u origin main

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<sup>1</sup> Instructions refer to GitHub

<sup>2</sup> master to main name change 2020/2021



## Git Basics: Walkthrough II

- ▶ Locate project to clone (on GitHub/GitLab)
  - ▶ Code → Copy/Paste
- ▶ Clone an existing project (local computer)
  - ▶ `git clone XXX`
  - ▶ `git log`
- ▶ Clone TuebingenWorkshopOnlineExperiments which contains course materials
  - ▶ `git clone https://github.com/igmmgi/TuebingenWorkshopOnlineExperiments.git`
  - ▶ `git pull`



# jsPsych: Getting Started

- ▶ Three related technologies
  - ▶ HTML (Hypertext Markup Language) with file extension .html
    - ▶ Controls the content on the webpage
  - ▶ CSS (Cascading Style Sheets) with file extension .css
    - ▶ Controls the style on the webpage
  - ▶ JavaScript with file extension .js
    - ▶ Used to add some interaction





# HTML

► `example.html`